

Island Series.

- a. Sweer's Island.
 b. Bentinck Island.
 c. Allen Island.
 d. Mornington Island.
 d₁. Forsyth Island.
 e. Pisonia Island.
 e₁. Island off N.E. cape of Mornington Island.
 f. One of Bountiful Islands.
 f₁. One of Bountiful Islands.
 g. Vanderlin's Island.
 h. North Island, Sir Edward Pellew Group.
 hh. Centre Island, Sir Edward Pellew Group.
 i. South West Island, Sir Edward Pellew Group.
 k. West Island, Sir Edward Pellew Group.
 l. Maria Island.
 m. Grootte Eylandt.
 m₁ to
 m₂. Islets off S.E. corner of Grootte Eylandt.
 n. Bickerton Island.
 o. One of the North East Islands.
 o₁. One of the North East Islands (Hawk Island).
 p. Winchelsea Island.
 q. Low Sandy Islet, N.W. of Winchelsea Island.
 r. Burney Island.
 r₁. Islet off east coast of Burney Is., towards Wedge Is.
 s. Morgan's Island.
 s₁. Woodah Island.
 s₂. Nicol Island.
 t₁. Fowler Island (N.W. part of Blue Mud Bay).
 u. Gooninah Island (to E.N.E. of Cape Shield).
 v. Bridgeland Island } Entrance to
 v₁. Dudley Island } Caledon
 v₂. McNamara Island } Bay.
 v₆. Islet off Mt. Alexander.
 v₇. Islet off Mt. Alexander.
 w. Bremer Island.
 w₁ to
 w₂. Islets surrounding Bremer Island.
 w₃. E. Woody Island.
 w₄. W. Woody Island.
 x to
 x₂. Bromby Islands.
 y. Wigram Island.
 y₁. Cotton's Island.
 y₂. Pibassoo's Island.
 y₃. Astell's Island.
 y₄. Islet to N. of Astell's Island.
 z. Inglis Island.
 z₁ to
 z₂. Islets to N. of Inglis Island.
 z₄. Bosanquet's Island.
 a. Mallinson's Island. }
 a₁. Everett Island. } Islands in
 a₂. Hardy Island. } entrance to
 a₃. Island to N. of } Arnhem Bay.
 Everett Is. }
 β. Probable Island.
 β₁. Gwakura Island.

Arnhem South Bay: This name, used by Brown (spelt "Arnheim" in the manuscripts) and also by Bentham in the *Flora Australiensis*, refers to Caledon Bay of the published charts.

Arnhem North Bay: This name also used by Brown, followed by Bentham, refers to Melville Bay of the published charts.

Bay No. 3: Arnhem Bay of the charts and modern maps.

References

- BROWN, R., 1810.—*Prodromus Florae Novae Hollandiae*.
 ———.—Unpublished plant descriptions (British Museum).
 ———.—Unpublished diary of period 1801-1805 (British Museum).
 BURBIDGE, N. T., 1955.—Index to the Microfilms of Robert Brown's botanical descriptions held by the British Museum (Natural History).
 FLINDERS, M., 1814.—*A Voyage to Terra Australis*.
 ———.—Unpublished charts (Admiralty, London).

THE GENERA *CAMPYLOCHIRUS* TROUessant AND *AUSTROCHIRUS*
WOMERSLEY IN AUSTRALIA (ACARINA, LISTROPHORIDAE).

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(Eight Text-figures.)

[Read 26th October, 1955.]

Synopsis.

Campylochirus chelopus Trouessart, 1893, the genotype of *Campylochirus* Trouessart, 1893, is redescribed and figured from the type host and locality. A new species of *Austrochirus* Womersley, now regarded as distinct from *Campylochirus*, is described from a water-rat from North Queensland. A key to the three known species of the genus is given.

Recently I received from Mr. H. Womersley several slides of listrophorid fur-mites from a ring-tail possum from Tasmania, containing adults of both sexes and a single pre-female nymph of a species of the subfamily Atopomelinae. The only species of ring-tail possum in Tasmania is *Pseudocheirus convolutor* Oken (= *Phalangista cooki* Desmarest).

Trouessart (1893) described *Campylochirus chelopus* (the genotype of *Campylochirus* Trouessart, 1893) from specimens from the same host and locality, his original and subsequent (1917) descriptions being quite brief and without illustrations. The species has not been recognized since, and the original specimens are not in the Trouessart collection (André, *in litt.*). The male and nymph of the new material agree with Trouessart's description in essentials. I believe that they are his species, that his original material lacked adult females, and that he mistook pre-female nymphs for adults.

The female of the new material has three distinct dorsal shields, while the nymph has only a single antero-dorsal shield. To ascertain Trouessart's conception of his genus *Campylochirus* I have examined adults of three undescribed Australian species which Trouessart himself attributed to this genus. In these the adults of both sexes have a single antero-dorsal shield like the nymph of the new material, and therefore do not conform to the genotype. If Trouessart's other two described species, *C. adherens* and *C. latus* (which are not Australian and not in the Trouessart collection) also conform as adults to his criteria, the genotype would be the only species left in *Campylochirus*. The three undescribed species conform to *Austrochirus* Womersley, 1943, the adults of which have a single antero-dorsal shield. In an earlier paper (Domrow, 1955, which contains all the references relevant to this paper) I wrongly regarded *Austrochirus* as equal to *Campylochirus* on the assumption that the latter was based on adult specimens.

A detailed description and figures of *C. chelopus* are given below, together with a description of a new species of *Austrochirus* from a water-rat from North Queensland.

CAMPYLOCHIRUS CHELOPUS Trouessart, 1893.

Female.

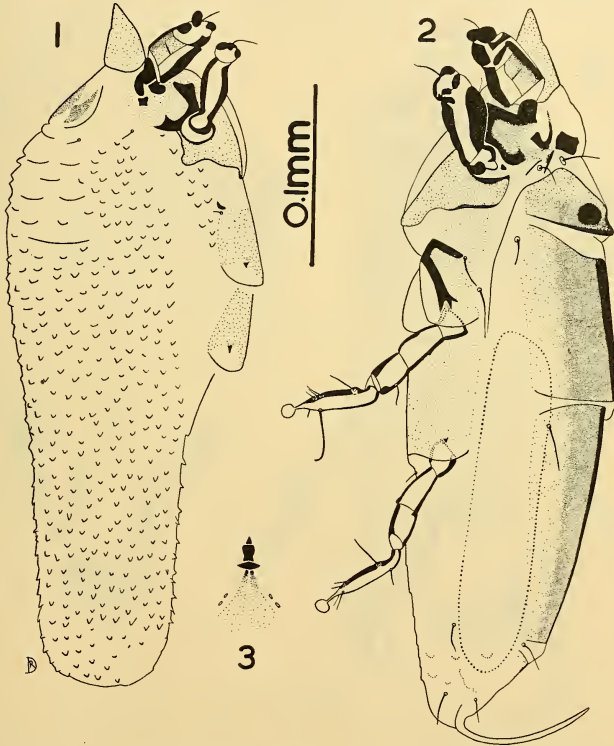
A slender, heavily sclerotized form, with capitulum completely uncovered. Dorsum with three sclerotized shields, whose lateral margins are very indistinct. There is a suggestion of a fourth shield near the end of the opisthosoma. Four setae with large bases in front of first dorsal shield, and one near the antero-lateral corners of each of the others. End of opisthosoma with about six setae and a few small, indistinct scale-like markings, and with an elongate process 80 to 88 μ long.

Legs I and II typical of subfamily, both heavily sclerotized, and rather flat, tarsus II at least with caruncle in ventral view. Coxae III and IV separate and sclerotized, forming a flap over the basal movable segment of legs III and IV. Articulatory process for leg III much more heavily sclerotized than that for leg IV. Two setae above, and a

triangular sclerotized zone in front of coxae III. Legs III and IV simple. Penultimate segment of leg III with a single seta, tarsus III with strong apical seta. A pair of setae on a small process between legs IV.

Genitalia placed between legs III in weakly sclerotized cuticle, with three anterior sclerotized bodies, and with two posterior sclerotized zones fading and spreading into the general cuticle, and flanked by two pairs of very small suckers. Egg single, elongate, with almost parallel sides, 190μ long, 38 to 42μ wide.

Average length, excluding terminal process, 400μ , range 373 to 436μ .



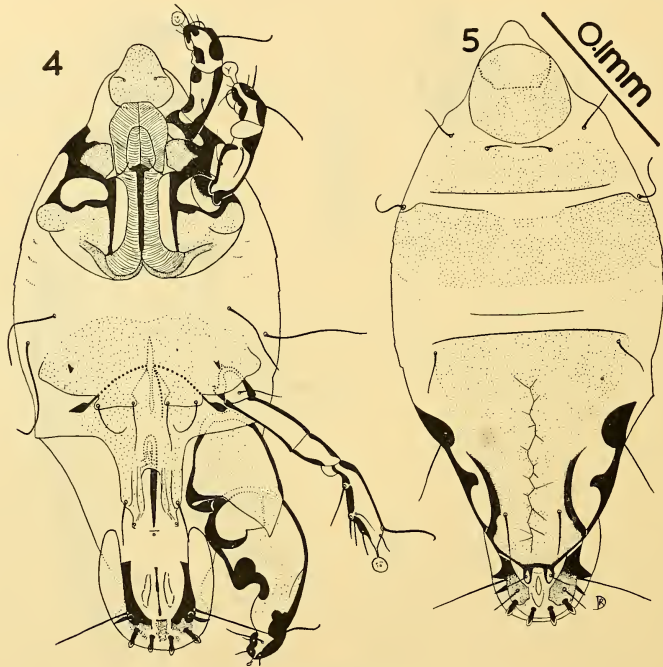
Text-figs. 1-3.

Campylochirus chelopus Trt. 1, Nymph; 2, female; 3, female genitalia.

Male.

A rather stouter form. Capitulum slightly more than half covered dorsally. Dorsum with three indistinct shields. Four setae along anterior margin of first shield, one at each antero-lateral corner of second. Third dorsal shield with seta in each antero-lateral corner, and two near postero-lateral margins, which are heavily sclerotized, and produced posteriorly into two small projecting processes, each bearing a short seta; with a zig-zag marking medially. At a somewhat lower level is a marginally transparent, flap-like extension around the end of the body, with two basal horns and six lobed processes. A pair of long setae are inserted ventrally near the horns. Anus longitudinal, and placed ventrally on this terminal lobe.

Legs I and II heavily sclerotized and with distinct caruncles. Clasping organ with a pair of setae between coxae I and II; with a W-shaped sclerotization posteriorly, and sternum heavily sclerotized. Coxal areas III and IV sclerotized and meeting medially, forming a flap over the basal movable segment of the legs. Coxal areas III with four long setae near antero-lateral corners and four on small lobes on posterior margins; with articulatory process for leg III small. Coxal areas IV produced postero-medially, flanking the dark, curved, blade-like penis, and with two setae. Articulatory processes for legs IV larger, and joined by a heavily sclerotized arc which passes forward between



Text-figs. 4, 5.

Campylochirus chelopus Trt. 4, Male, ventral; 5, male, dorsal.

legs III and is covered by coxal areas III. Leg III simple, basal movable segment with a single seta, tarsus III with strong apical seta. Leg IV greatly swollen and heavily sclerotized, basal segment without seta. Caruncle IV much reduced.

Length 350 to 358 μ .

Nymph.

Capitulum, legs, and ventral sclerotization as in female, except that coxae III are not as heavily sclerotized. Anterior dorsum with small, apparently 3-lobed shield. Rest of body covered with small papillae which are somewhat larger near the dorsal shield, and rather pointed posteriorly. Without any terminal process or lobe. I believe this nymph to be prè-female, and that the form described by Trouessart as an adult female was really a nymph.

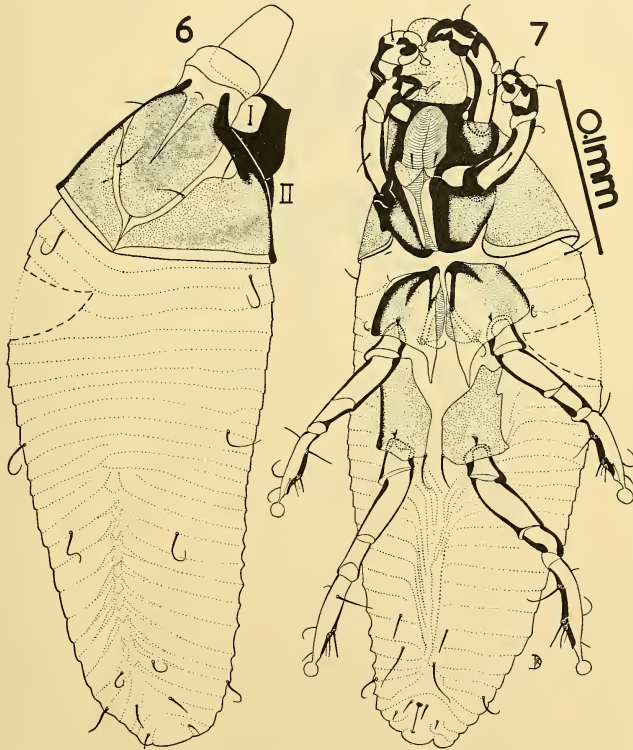
Length 373 μ .

Material examined.

Six females, three males, and one nymph, labelled "On ring-tail, Woodbury, 28.v.54, Entomology Div., Dept. Agr., Tas., I. Rowley coll."

AUSTROCHIRUS ENOPLUS, n.sp. (εροπλος, armed).

Types: Holotype female, allotype male, thirteen paratype females and six paratype males in collection of Queensland Institute of Medical Research, Brisbane. Also three pairs of paratypes in South Australian Museum, Adelaide. All specimens collected from *Hydromys chrysogaster reginae* Thomas and Dollmann, Flying Fish Point, North Queensland, 18.v.55.



Text-figs. 6, 7.

Austrochirus enoplus, n.sp. 6, Female, dorsal; 7, female, ventral.

Female.

Dorsum with well sclerotized anterior shield, which is divided into three distinct regions. Mid-dorsal area deeply and narrowly incised medially, and flanked by four simple setae. Lateral areas densely sclerotized anteriorly, and becoming narrower as they pass behind the median area to meet centrally. The lateral areas encroach quite broadly onto the venter above coxae II.